payload of that INMP. In step 504, LSR 1 processes the INMP in accordance with the command type in the payload. For example, LSR 1 may determine from a command in the payload that the loopback INMP is for testing at least one parameter of the BTT, such as delay. In step 505, LSR 1 determines whether it is the loopback LSR for the received INMP. The LSR makes the latter determination, for example, by examining the payload and discovering its address in the target LSR address field of the INMP payload. LSR 1 is not the loopback LSR, so LSR 1 transmits the INMP to the next hop downstream, towards the loopback LSR. Steps 501-505 are repeated until LER B receives the loopback INMP. In step 506, after LER B receives the loopback INMP and identifies itself as the loopback LSR for the loopback INMP, LER B transmits the INMP to a next hop upstream, towards LER A. The loopback LER, LER B, may set a flag in the payload of the loopbacked INMP indicating that the INMP sent upstream is a loopbacked INMP.

REMARKS

The specification has been amended to include current information on the U.S. Patent Application Serial No. 09/589,466, entitled "Techniques For Introducing In-Band Network Management Packets In Multi-Protocol Label Switching Networks" filed the same day as the present application.

Should the Examiner have any questions prior to issuing a first Office Action, the Examiner is encouraged to contact the undersigned at the telephone number given.

Respectfully submitted,
Banner & Witcoff, Ltd.

By: _____
Thomas H. Jackson
Registration No. 29,808

1001 G Street, N.W.
Eleventh Floor
Washington, D.C. 20001-4597
Phone: (202) 508-9100

Dated: September 18, 2001

VERSION WITH MARKINGS TO SHOW CHANGES

IN THE SPECIFICATION:

Please amend the specification as follows:

Please replace the section on page 1 beginning on line 5:

U.S. Patent Application Serial No. 09/589,466~~TBD (Attorney Docket No. 3493.85735)~~, entitled "Techniques For Introducing In-Band Network Management Packets In Multi-Protocol Label Switching Networks" and originally filed the same day as the present application, is hereby incorporated by reference.

Please replace the section on page 8 beginning on line 23:

FIG. 5 is a flow diagram for the first preferred embodiment of the present invention for performing a loopback procedure at an LSR. FIG. 5 will be described using LSR 1 as a loopback LSR, as illustrated in FIG. 3. Loopback arrow 12, in FIG. 3, illustrates a loopback procedure performed at LSR 1. Also, elements of the loopback LSR illustrated in FIG. 4 will be used in the description of FIG. 5. In step 70, LSR 1 receives a loopback packet from LER A on port 50 having incoming label 102 in the loopback packet header. The packet information for the loopback packet is forwarded to processing circuitry 65. In step 71, processing circuitry 65 determines that the packet is a loopback packet from packet header information for the loopback packet, and identifies itself as the loopback LSR for the received loopback packet traveling~~travelling~~ downstream on BTT 10. Techniques for identifying loopback packets, such as INMPs are described in co-pending U.S. Patent Application Serial No. 09/589,466~~TBD (Attorney Docket No. 3493.85735)~~, previously incorporated by reference. In step 72, processing circuitry 65 replaces incoming label 102 with incoming label 406 that corresponds to a packet received from BTT 10 traveling~~travelling~~ upstream on BTT 10. In step 73, processing circuitry 65 identifies the NHLFE associated with the replaced label 406. For example, processing circuitry 65 may index a table having NHLFEs and retrieve the NHLFE associated with replaced

label 406. Processing circuitry 65 determines the next hop using the identified NHLFE (step 74), and the loopback packet is transmitted to LER A in step 75. In per-interface label space method is used (as opposed to per-platform label space), the loopback packet is label switched using the NHLFE associated with the interface corresponding to label 406 in FIG 3.

Please replace the section on page 14 beginning on line 8:

FIG. 9 is a flow diagram for processing INMPs. FIG. 9 will be described in conjunction with MPLS network 40 as shown in FIG. 3 and using LER B as a loopback LSR. In step 500, LER A constructs a loopback INMP. In step 501, LER A transmits the loopback INMP downstream towards the loopback LSR, e.g., LER B. LSR 1 is the next hop on BTT 10 in the downstream direction, and LSR 1 receives the loopback INMP in step 502. In step 503, LSR 1 identifies the packet as an IMNP using a MPLS shim header for the INMP. The shim header and its use for differentiating between user packets and INMPs is described in U.S. Patent Application Serial No. 09/589,466~~TBD (Attorney Docket No. 3493.85735)~~, previously incorporated by reference. LSR 1 then determines whether the received INMP is a loopback INMP, for example, by reading a command in the payload of that INMP. In step 504, LSR 1 processes the INMP in accordance with the command type in the payload. For example, LSR 1 may determine from a command in the payload that the loopback INMP is for testing at least one parameter of the BTT, such as delay. In step 505, LSR 1 determines whether it is the loopback LSR for the received INMP. The LSR makes the latter determination, for example, by examining the payload and discovering its address in the target LSR address field of the INMP payload. LSR 1 is not the loopback LSR, so LSR 1 transmits the INMP to the next hop downstream, towards the loopback LSR. Steps 501-505 are repeated until LER B receives the loopback INMP. In step 506, after LER B receives the loopback INMP and identifies itself as the loopback LSR for the loopback INMP, LER B transmits the INMP to a next hop upstream, towards LER A. The loopback LER, LER B, may set a flag in the payload of the loopbacked INMP indicating that the INMP sent upstream is a loopbacked INMP.